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document APS/123-QED

Testing the principle of equivalence with Planck surveyor L.A. PopaAlso at the Institute of Space Sciences, Bucharest, Romania C. Burigana and N. Mandolesi IASF/CNR, Istituto di Astrofisica Spaziale e Fisica Cosmica, Sezione di Bologna,

abstract We consider the effect of the violation of the equivalence principle (VEP) by the massive neutrino component on the Cosmic Microwave Background angular power spectrum. We show that in the presence of adiabatic and isocurvature primordial density perturbations the Planck surveyor can place limits on the maximal VEP by the massive neutrino component at the level of $\text{few} \times 10^{-5}$, valid in the general relativity, for the case in which the gravity is the single source of VEP. This work has been performed within the framework of the Planck/LFI activities.